

## AMY HUGHES, PHD

Postdoctoral Research Fellow  
Department of Clinical Sciences, UTSW  
Cancer Education and Career Development Program, UTHealth

5323 Harry Hines Blvd, E1.410T, Dallas, TX 75032  
Phone: 214-648-0262; Fax: 214-648-3232  
Email: AmyE.Hughes@utsouthwestern.edu

### SUMMARY

Background in geographic information systems, economics, spatial statistics, and cancer prevention and control research using large surveillance, administrative, and electronic medical record (EMR) databases. Interested in applications of spatial statistics, econometrics, and geographic policy implications relevant to cancer screening and outcomes research.

### EDUCATION

- 2016                      Ph.D., Geospatial Information Sciences (GIS)  
The University of Texas at Dallas, 2016  
Dissertation: *Residential Mobility and Colorectal Cancer (CRC) Screening: A Spatial Analysis of CRC Screening In an Urban Safety-Net Clinic* (Chair: Daniel A. Griffith; Members: Tammy C. Leonard, Yongwan Chun, Sandi L. Pruitt, Doehyeong Kim)
- 2012                      M.S., Economics  
The University of Texas at Dallas, 2012
- 2009                      B.S., Economics  
California Polytechnic State University, San Luis Obispo, 2009  
Concentrations: Quantitative Economics, Finance  
Minor: Statistics  
Thesis: *Spatial Relationships in Unemployment: City of Los Angeles*  
(Supervisors: Eric O'N. Fisher, Eduardo Zambrano)

### PROFESSIONAL EXPERIENCE

- |                             |          |   |
|-----------------------------|----------|---|
| Fall 2017                   | Teaching | Title: Teaching Assistant<br>Class: Intro to Biostatistics<br>Institution: University of Texas Southwestern Medical Center<br>Roles: Student mentoring, grading   |
| Spring 2017,<br>Spring 2018 | Teaching | Title: Lecturer I<br>Institution: Geospatial Information Sciences Department, The University of Texas at Dallas<br>Class: Fundamentals of Geospatial Information Sciences<br>Overall Professor Rating: 4.7/5.0            |
| May 2016 – present          | Research | Title: Postgraduate Research Fellow<br>Institution: Department of Clinical Sciences, University of Texas Southwestern Medical Center; Cancer Education and Career Development Program, UTHealth Science Center at Houston |
| Fall 2012 – Spring<br>2016  | Research | Title: GIS Student Intern   |

Institution: Department of Clinical Sciences, University of Texas Southwestern Medical Center; Geospatial Information Sciences Department, The University of Texas at Dallas

Roles: Focus on colorectal cancer screening (CRC) research, administrative and electronic medical record (EMR) data, and analysis of longitudinal residential address data; Conduct geospatial (e.g. spatial lag model) and multilevel analyses; GIS support for studies in Department of Clinical Sciences, including geocoding and mapping; Attend health services and seminars on an ad hoc basis, including Clinical Research and Design Analysis (DCS 5301, Dr. Milton Packer, Fall 2012)

Spring 2012, Fall 2011	Teaching	Title: Teaching Assistant Class: Basic Techniques for Economic Research Institution: The University of Texas at Dallas Roles: Instructor – Curriculum development; Lectures; Grading
Summer 2011	Research	Title: Research Assistant Institution: Economics Department, The University of Texas at Dallas Roles: Data preparation; Mapping using GIS; Statistical modeling using MATLAB

## PEER-REVIEWED PUBLICATIONS

Carvour, M.; **Hughes, A.**; Fann, N.; Haley, R. "Estimating the Health and Economic Impacts of Changes in Local Air Quality: Applications of an Environmental Benefits Mapping and Analysis Program." *American Journal of Public Health*. In press.

**Hughes, A.E.**; Pruitt, S.L. The Utility of EMR Address Histories for Assessing Neighborhood Exposures. *Annals of Epidemiology* (2017). [NIHMS 811640, PMID: 27663209, PMCID: PMC5482357. doi: 10.1016/j.annepidem.2016.07.016.]

Leonard, T., **Hughes, A.E.**, Pruitt, S.L. Understanding how low-socioeconomic status households cope with health shocks: An analysis of multi-sector linked data. *The Annals of the American Academy of Political and Social Science* (2016). [NIHMS: 841258, PMID: 28413218, PMCID: PMC5388137, doi: 10.1177/0002716216680989]

Gupta, Samir; Miller, S.; Koch, M.; Berry, E.; Anderson, P.; Pruitt, S.L.; Borton, E.; **Hughes, A.E.**; Carter, E.; Hernandez, S.; Pozos, H.; Halm, E.A.; Gneezy, A.; Lieberman, A.J.; Sugg Skinner, C; Argenbright, K.; Balasubramanian, B. Financial Incentives for Promoting Colorectal Cancer Screening: A Randomized, Comparative Effectiveness Trial. *The American Journal of Gastroenterology* (2016). [PMID: 27481306. doi: 10.1038/ajg.2016.286.]

Pruitt, S.L.; Leonard, T.; Murdoch, J.; **Hughes, A.**; McQueen, A.; Gupta, S. "Neighborhood effects in a behavioral randomized controlled trial." *Health & Place* 30 (2014): 293-300. [PMCID: PMC4845650. doi: 10.1016/j.healthplace.2014.10.001. PMID: 25456014.]

**Hughes, A.E.**; Pruitt, S.L. " Using Address Histories in Health Research: Challenges and Recommendations for Research." *Proceedings of the Third ACM SIGSPATIAL International Workshop on the Use of GIS in Public Health*. ACM, 2014. [doi: 10.1145/2676629.2676638]

## PRESENTATIONS

**Hughes, A. E.**; Pruitt, S. L.; Lee, S. C. "Potential and Realized Spatial Accessibility to Breast Cancer Services for Rural Underinsured Women across North Texas." Oral presentation given at the 2018 Annual Meeting of the American Association of Geographers (AAG). New Orleans, LA. April 13, 2018.

- Hughes, A. E.;** Tiro, Jasmin A.; Balasubramanian, B.; Sugg Skinner, C.; Pruitt, S.L. "Using longitudinal electronic health records to measure multilevel social disadvantage: Colorectal cancer screening among urban safety-net patients." Poster presented at the 2017 Cancer Prevention Institute of Texas (CPRIT) Innovations Conference. Austin, TX. November 14, 2017.
- Leonard, T.; **Hughes, A. E.;** Donegan, C.; Santillan, A.; Pruitt, S. L.; "Food security and poor health: Predicting Spatial Cluster Overlaps." Oral Presentation Given at the 64<sup>th</sup> Annual North American Meetings of the Regional Science Association International (NARSC). Vancouver, CAN. November 9, 2017.
- Hughes, A. E.** "UGCoP and the Simultaneous Panel Spatial Lag Model: A simulation study." Oral Presentation Given at the 2017 Annual Meeting of the American Association of Geographers (AAG). Boston, MA. April 6, 2017.
- Hughes, A. E.** "Neighborhood Enclaves in CRC Screening." Oral Presentation Given at the 63<sup>rd</sup> Annual North American Meetings of the Regional Science Association International (NARSC). Minneapolis, MN. November 12, 2016.
- Hughes, A. E.;** Leonard, T.; Pruitt, S.L. "Social observatories and historic neighborhood exposures: Implications for cancer prevention and control." Oral Presentation Given at Geospatial Approaches to Cancer Control and Population Sciences (GAccPS). Bethesda, MD. September 13, 2016.
- Hughes, A. E.;** Chun, Y.; Leonard, T.; Kim, D.; Griffith, D.A.; Pruitt, S.L. "A Parallelized Bayesian Spatial Autoregressive Panel Probit Model." Oral Presentation Given at the 62<sup>nd</sup> Annual North American Meetings of the Regional Science Association International (NARSC). Portland, OR. November 12, 2015.
- Carvour, M.; **Hughes, A. E.;** Haley, R. "Estimating Benefits of Ozone Mitigation in Dallas-Fort Worth." Oral Presentation Given at Air Modeling Project Committee Meeting. Dallas, TX. February 27, 2015.
- Haley, R.; Carvour, M.; **Hughes, A. E.** "Predicted Health Impacts and Economic Values with 10-ppb Reduction of Ozone Levels." Oral Presentation Given as testimony at Environmental Protection Agency (EPA) Public Hearing on Proposed Smog Standards. Arlington, TX. January 29, 2015.
- Hughes, A. E.;** Leonard, T. "Neighborhood Effects in a Behavioral RCT." Oral Presentation Given at the 61<sup>st</sup> Annual North American Meetings of the Regional Science Association International (NARSC). District of Columbia. November 14, 2014.
- Lee S.J.C.; Higashi R.T.; Inrig S.J.; Sanders J.M.; **Hughes A.E.;** Bishop W.P.; Argenbright K.E.; Pruitt S.L. Adapting rural outreach and service delivery to meet local demand for mammography among Hispanic and Spanish-speaking women (BSPAN2). *Cancer Prevention and Research Institute of Texas (CPRIT) Innovations in Cancer Prevention and Research Conference.* Austin TX. Nov 9, 2015.
- Hughes, A. E.;** Pruitt, S.L. " Using Address Histories in Health Research: Challenges and Recommendations for Research." Oral Presentation Given at the ACM SIGSPATIAL International Workshop on the Use of GIS in Public Health. Dallas, TX. November 4, 2014.
- Hughes, A. E.;** Pruitt, S.L., Leonard, T. Python, Cadastral Geocoding, and Electronic Medical Record (EMR) Data. Oral Presentation Given at the ESRI International User Conference. July 17, 2014.
- Pruitt, S.L.; Leonard, T; Murdoch, J.; **Speer, A. E.;** McQueen, A.; Gupta, S. Shared behavioral patterns among neighbors in a randomized controlled trial to boost colorectal cancer screening. Poster to be presented at the Society of Behavioral Medicine 35th Annual Meeting, Philadelphia, PA April 26, 2014.
- Hughes, A. E.** Spatial Relationships in Unemployment: Los Angeles, California Polytechnic State University San Luis Obispo, 2009.

## PAPERS UNDER REVIEW

**Hughes, A. E.**; Tiro, Jasmin A.; Balasubramanian, B.; Sugg Skinner, C.; Pruitt, S.L. "Social disadvantage, healthcare utilization, and colorectal cancer screening: Leveraging longitudinal patient address and electronic health records to elucidate connections." Under review at *Cancer Epidemiology, Biomarkers & Prevention*.

Leonard, T.; **Hughes, A.E.**; Donegan, C.; Santillan, A.; Pruitt, S.L. "Overlapping geographic clusters of food security and health: Where do social determinants and health outcomes converge in the U.S.?" Under review at *American Journal of Preventive Medicine*.

Murphy, C.; Ahn, C.; Pruitt, S.L.; **Hughes, A.E.**; Halm, E.; Gupta, S.; Santini, N.; McCallister, K.; Sanders, J.; Singal, A.; Skinner, C. "A pragmatic, randomized trial of FIT vs. colonoscopy outreach: Patterns of screening initiation by intervention dose." Under review at *American Journal of Gastroenterology*.

## PAPERS IN PROGRESS

**Hughes, A.**; Leonard, T.; Pruitt, S.L. Social Observatories and historic neighborhood exposures: Implications for cancer prevention and control.

**Hughes, A. E.**; Leonard, T.; Bowen, M.; Pruitt, S.L. "Spatial Distribution of diabetes prevalence and food costs in the United States: Target areas for intervention."

## PROFESSIONAL SERVICE

Journal Referee: The Professional Geographer  
 Cancer Epidemiology, Biomarkers & Prevention  
 American Journal of Preventive Medicine (2017 Certificate of Excellence in Reviewing)  
 Environmental Geochemistry and Health  
 Cancer Medicine  
 Medical Care  
 Preventing Chronic Disease  
 Annals of the American Association of Geographers  
 Papers in Regional Science  
 International Journal of Geographical Information Science

## AWARDS AND HONORS

Scholarships: 2015-16: University of Texas at Dallas, Provost Office – 100% Tuition  
 2014-15: University of Texas at Dallas, Provost Office – 100% Tuition  
 2013-14: University of Texas at Dallas, Provost Office – 100% Tuition  
 2012-13: University of Texas at Dallas, Provost Office – 100% Tuition  
 2011-12: University of Texas at Dallas, Provost Office – 100% Tuition  
 2008-09: California Polytechnic State University Athletics 67% Tuition (Swim Team)  
 2007-08: California Polytechnic State University Athletics 67% Tuition (Swim Team)  
 2006-07: California Polytechnic State University Athletics 67% Tuition (Swim Team)  
 2005: California Scholarship Federation \$1000

Awards: 2009: California Polytechnic State University Economics Department Outstanding Senior Project Award  
 2017 AJPM Certificate of Excellence in Reviewing

Honors: 2008-09: California Polytechnic State University Women's Swim Team Captain

## MEMBERSHIPS

Professional Associations: Association of American Geographers, Student Member (2014-present)  
Southern Regional Science Association, Member (2013-present)

Honor Societies: Phi Kappa Phi, UT Dallas Chapter (2015-present)

Student Organizations: **UT Southwestern Postdoctoral Association Career Development Committee (2018)**  
UT Southwestern Postdoctoral Association Career Development Committee (2017)  
UT Dallas GIS Student Organization, Vice President (2015-2016)  
UT Dallas GIS Student Organization, Secretary (2014-2015)  
UT Dallas GIS Student Organization, Member at Large (2012-2014)

## ADDITIONAL TRAINING

2016: Summer Econometrics Course, Regional Research Institute (July 2016)  
STATA Multilevel/Mixed Models Web Class (September 2016)

2017: Multilevel Modeling for Non-Normal Data, Statistical Horizons (May 2017)  
Professional Development Workshop for Early-Career Investigators in Behavioral/Social Science Research and Cancer Prevention and Control (August 2017)

**2018: ASPO Mock Study Section (March 2018)**